EXHIBIT 5
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MONTANA
DEPARTMENT OF COMMERCE

COMMUNITY DEVELOPMENT DIVISION

TREASURE STATE ENDOWMENT PROGRAM

Project Application Reports #26 - 30

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Project No. 26
City of Choteau – Wastewater System Improvements

This application received 3,304 points out of a possible 5,000 points and ranked 26 out of 49 for funding in the 2015 Biennium.

Funding Source	Type of Funds	Amount	Status of Funds
TSEP	Grant	$750,000	Awaiting decision of the Legislature
RRGL	Grant	$100,000	Awaiting decision of the Legislature
CDBG	Grant	$450,000	Application expected to be submitted Spring 2013
RD	Grant	$250,000	Application submitted May 2012
RD	Loan	$6,254,370	Application submitted May 2012
Project Total		**$7,804,370**	

Median Household Income:	$25,708	Total Population: 1,781	
Percent Non-TSEP Matching Funds:	90%	Number of Households: 807	

	Monthly Rate	Percent of Target Rate		Monthly Rate	Percent of Target Rate
Existing Water Rate:	$34.64		Target Rate:	$49.27	-
Existing Wastewater Rate:	$19.57		Rate With Proposed TSEP Assistance:	$83.53	170%
Existing Combined Rate:	$54.21	110%	Rate Without TSEP Assistance:	$85.77	174%

Project History – The wastewater system in Choteau includes a collection system and a single-cell, facultative lagoon. The City replaced or slip lined nearly 21,000 feet of sewer collection piping between the years 2000 and 2010 to reduce infiltration. Despite an estimated reduction of over 1,000,000 gpd of infiltration into the collection system, the peak inflows to the treatment facility remain in excess of what should be normally expected. The existing 27-acre, single-cell, facultative lagoon wastewater treatment facility is repeatedly out of compliance with the City's Montana Pollutant Discharge Elimination System (MPDES) permit. In 2010, the Department of Environmental Quality (DEQ) renewed the City's MPDES permit and included a compliance schedule for replacement of the existing treatment system and ongoing efforts to reduce infiltration. In January 2012, the DEQ issued the City an Administrative Order on Consent (AOC). Among the conditions, the final, signed AOC requires the City to submit a design and complete construction of a new wastewater treatment facility.

Problem – The wastewater system has the following deficiencies:

- sections of sewer mains are subject to high infiltration;
- treatment system permit violations due to sludge accumulation, short circuiting, and insufficient detention time; and
- inability to meet proposed ammonia limit.

Proposed Solution – The proposed project would:

- replace or rehabilitate about 5,300 feet of sewer main;
- construct a new treatment system with the preferred alternative consisting of a mechanical oxidation ditch; and
- construct biosolids storage ponds and sand drying beds.

Project No. 27
City of Boulder – Wastewater System Improvements

This application received 3,276 points out of a possible 5,000 points and ranked 27 out of 49 for funding in the 2015 Biennium.

Funding Source	Type of Funds	Amount	Status of Funds
TSEP	Grant	$ 625,000	Awaiting decision of the Legislature
RRGL	Grant	$ 100,000	Awaiting decision of the Legislature
CDBG	Grant	$ 450,000	Application expected to be submitted March 2013
RD	Grant	$ 750,000	Application submitted June 2012
RD	Loan	$2,757,000	Application submitted June 2012
Applicant	Cash	$ 200,000	Committed by resolution, partially expended on PER
Project Total		**$4,882,000**	

Median Household Income:	$29,276	Total Population: 1,300
Percent Non-TSEP Matching Funds:	87%	Number of Households: 508

	Monthly Rate	Percent of Target Rate		Monthly Rate	Percent of Target Rate
Existing Water Rate:	$34.16	-	Target Rate:	$56.11	-
Existing Wastewater Rate:	$21.96	-	Rate With Proposed TSEP Assistance:	$79.91	142%
Existing Combined Rate:	$56.12	100%	Rate Without TSEP Assistance:	$85.34	152%

Project History – The wastewater system in Boulder includes three facultative lagoons southeast of the City which discharge to the Boulder River. In 1967, the City undertook extensive collection system replacement efforts and replaced all existing lines with vitrified clay piping. All repairs since 1970 have used PVC piping. The gravity collection system was designed to serve both the City and various state correctional facilities and treatment centers. The original wastewater treatment facility was constructed in 1960 as a single cell facultative lagoon to serve the correctional and treatment facilities. In 1967, two additional lagoon cells were constructed by the City. With the exception of the southwest dike, one of the cells where the lagoons experienced major embankment washout during a record high flood event in 1981, the lagoons have received little maintenance outside of vegetation removal. There are no lift stations or mechanical equipment associated with the system.

Problem – The wastewater system has the following deficiencies:

- the existing lagoons are leaking an excessive quantity of wastewater creating the potential for public contact with undiluted wastewater in the groundwater or surface water;
- the lagoons are located within the Boulder River floodplain and there is a risk of washout during a major flood event;
- the existing lagoons have a significant amount of settled sludge which reduces the treatment capacity of each cell;
- the lagoon treatment performance has not consistently met DEQ discharge permit limits for BOD_5 and TSS removal requirements;
- the latest discharge permit, effective January 1, 2015 contains *E. Coli* and total ammonia limits which the existing lagoons cannot consistently meet; and
- the wastewater collection system has had persistent root infestation issues which caused several hundred gallons of sewage to back up into a basement in 2010.

Proposed Solution – The proposed project would:

- construct a mechanical plant to replace the existing lagoon system with an activated sludge treatment system that will discharge to the Boulder River;
- install ultraviolet disinfection facilities;
- construct sludge processing, thickening and removal facilities with area land fertilizer applications;
- provide about 1,600 feet of collection system improvements using either open cut or CIPP rehabilitation methods, replace about 11 manholes; and
- implement dewatering and removal of existing sludge.

Project No. 28
City of Polson – Water System Improvements

This application received 3,274 points out of a possible 5,000 points and ranked 28 out of 49 for funding in the 2015 Biennium.

Funding Source	Type of Funds	Amount	Status of Funds
TSEP	Grant	$625,000	Awaiting decision of the Legislature
RRGL	Grant	$100,000	Already Awarded. Waiting for Start-up Conditions
SRF	Loan	$755,620	Application expected to be submitted spring of 2013
Project Total		**$1,480,620**	

Median Household Income:	$21,870	Total Population: 4,041
Percent Non-TSEP Matching Funds:	58%	Number of Households: 1,739

	Monthly Rate	Percent of Target Rate		Monthly Rate	Percent of Target Rate
Existing Water Rate:	$22.30		Target Rate:	$41.92	-
Existing Wastewater Rate:	$28.75		Rate With Proposed TSEP Assistance:	$53.44	127%
Existing Combined Rate:	$51.05	122%	Rate Without TSEP Assistance:	$55.08	131%

Project History – The water system in Polson includes a system of groundwater wells and storage reservoirs to supply water to three primary pressure zones. The City has seven water wells, six of which are being used, and seven storage reservoirs. Treatment includes chlorination and addition of a corrosion inhibitor or iron removal. The City has implemented an ongoing process of improvements to the water system with the most recent work including the completion of two 500,000 gallon water storage tanks, telemetry control system, east-west transfer corridor between the Skyline and Woodbine tanks, and several water main replacements west of Main Street. In 2004, the City connected the west shore supply and storage facilities to the water system through the construction of a water line lying on the bottom of the Flathead River. The City has had an ongoing process to upgrade their water system.

Problem – The water system has the following deficiencies:
- ❑ inadequate water supply to meet future maximum demand and drought;
- ❑ potential for negative pressures and cross connections in distribution system; and
- ❑ inadequate fire flows for protection of key downtown businesses.

Proposed Solution – The proposed project would:
- ❑ install new east side well; and
- ❑ replace about 5,600 feet of downtown water mains.

Project No. 29
City of Cut Bank – Wastewater System Improvements

This application received 3,249 points out of a possible 5,000 points and ranked 29 out of 49 for funding in the 2015 Biennium.

Funding Source	Type of Funds	Amount	Status of Funds
TSEP	Grant	$625,000	Awaiting decision of the Legislature
RRGL	Grant	$100,000	Awaiting decision of the Legislature
RD	Loan	$7,406,000	Application expected to be submitted June 2012
Project Total		**$8,131,000**	

Median Household Income:	$33,885	Total Population: 3,105
Percent Non-TSEP Matching Funds:	92%	Number of Households: 1,264

	Monthly Rate	Percent of Target Rate		Monthly Rate	Percent of Target Rate
Existing Water Rate:	$36.03	-	Target Rate:	$64.95	-
Existing Wastewater Rate:	$15.97	-	Rate With Proposed TSEP Assistance:	$82.82	128%
Existing Combined Rate:	$52.00	80%	Rate Without TSEP Assistance:	$85.09	131%

Project History – The wastewater system for the City of Cut Bank employs a facultative lagoon and discharges treated wastewater to Old Maids Coulee, an intermittent tributary of Cut Bank Creek which joins Birch Creek to form the Marias River. The existing system consists of two facultative treatment lagoons constructed in 1958 and upgraded in the 80's and 90's, with the most recent upgrade of the lagoons, collection system and lift stations occurring in 1996. The collection system contains about 14.3 miles of gravity sewer pipe, 7,800 feet of force main and two lift stations. Most of the pipe is vitrified clay pipe, with the newer mains being 8-inch PVC.

Problem – According to the PER, the wastewater system has the following deficiencies:

- The new March 2012 MPDES permit includes an ammonia limit of 1.0 mg/L NH3-N that the existing lagoon cannot meet. A new or upgraded system is needed for the City to comply with the discharge permit requirements. The compliance deadline is March 1, 2016.
- Sanitary sewer overflows (SSOs) in basements have resulted from deficient collection pipes located in two alley blocks in the City. Video inspection has shown that the clay tile pipe was installed with the pipe joints placed with the pipe spigot oriented backwards, or against the direction of flow. Maintenance efforts have been made to prevent the low velocities and remove blockages, but the problems will recur until the pipes are rehabilitated or reconstructed.
- Sanitary sewer service has been lost because of freezing in a shallow main resulting in back-ups. There are no maintenance actions that can be implemented to prevent freezing in the shallow main.

Proposed Solution – The proposed project would:

- Construct a new lined facultative treatment lagoon immediately east of the existing lagoons on property owned by the City,
- Construct an additional transmission main and a lift station to transfer City wastewater flows into the new treatment lagoon,
- Construct an effluent lift station and effluent force main to transfer treated effluent to the new storage lagoon,
- Construct a lined storage lagoon,
- Construct an irrigation system for slow rate land application of effluent. The system will include an irrigation pump, irrigation main and pivot,
- Using open-cut methods, replace about 510 LF of shallow main with a new pipe placed to

sufficient depth to protect the line from freezing. Adequate grade exists to allow lowering the main. This replacement will occur in the alley between 4th Street, 3rd Street, Central Avenue, and 1st Avenue. Service lines will be reconnected to the new main, and,

- ❑ Replace about 1,100 LF of the main with poor flow capabilities, line the pipe with CIPP and rehabilitate the services using a top-hat liner seal at the existing services. The main section in question is in alleys, where there are existing natural gas utilities that would need to be relocated and a short portion of the main is located under a building. The rehabilitation will take place in the alleys between 6th Avenue, 7th Avenue, 3rd Street, and 1st Street.

Project No. 30
White Sulphur Springs - Wastewater System Improvements

This application received 3,229 points out of a possible 5,000 points and ranked 30 out of 49 for funding in the 2015 Biennium.

Funding Source	Type of Funds	Amount	Status of Funds
TSEP	Grant	$460,500	Awaiting decision of the Legislature
RRGL	Grant	$100,000	Application submitted May 2012; awaiting decision
SRF	Loan	$427,500	Application will be submitted after May 2013
Project Total		**$988,000**	

Median Household Income:	$28,229	Total Population: 984	
Percent Non-TSEP Matching Funds:	53.3%	Number of Households: 443	

	Monthly Rate	Percent of Target Rate		Monthly Rate	Percent of Target Rate
Existing Water Rate:	$32.93		Target Rate:	$54.11	-
Existing Wastewater Rate:	$21.17		Rate With Proposed TSEP Assistance:	$71.49	132%
Existing Combined Rate:	$65.95	122%	Rate Without TSEP Assistance:	$77.90	144%

Project History - The City of White Sulphur Springs (pop. 939) lies at the southeast (headwaters) end of the Smith River Valley. The wastewater collection system in White Sulphur Springs was originally constructed in 1916 and consisted of mostly vitrified clay pipe. The last major improvements were in 1959, when the City built the facultative treatment lagoons and approximately 3,300 lineal feet of 15-inch sewer main to convey all the raw wastewater to that location. In 1980, a small lift station was built on the eastside of Town and an 800-ft. segment of leaking pipe was replaced on Main Street. In 2009, the City installed a nine-inch Parshall influent flume and constructed a multi-level draw-off/weir structure at the treatment lagoons in order to improve effluent quality.

The wastewater treatment facility (constructed in 1958) consists of a two-cell facultative lagoon that can be operated in series or in parallel. Discharge is intermittent to an irrigation ditch which flows into the South Fork of the Smith River. Discharge typically occurs seven to eight months of the year. Disinfection of the effluent is not provided and flow is measured with a bucket and stopwatch.

Problem – According to the PER, the wastewater system has the following deficiencies:

- Virtually continual violations of MPDES permit limit for BOD_5, TSS, pH, and fecal indicators organisms,
- Cannot meet secondary treatment standards,
- Excessive infiltration and inflow (I&I) in the collection system,
- Deteriorating manholes,
- Erosion of lagoon dikes,
- Measurable seepage through lagoon liner in excess of current day design standards, and
- Accumulated sludge in the lagoons.

Proposed Solution – The proposed project would address Infiltration and Inflow:

- Install a CIPP liner in 6,940 lineal feet of sewer main,
- Replace 1,330 lineal feet of sewer main,
- Replace 550 lineal feet of service line,
- Rehabilitate or replace about 20 manholes and reconnect 55 sewer service lines,

Note: TSEP grant funds are not typically allowed for service line work; they are to be used only for those portions of the system that are publicly-owned.
Alternatives for improvements to the treatment system were developed in the PER, but the selection of a preferred treatment alternative will be made in a subsequent phase to achieve compliance with its MPDES permit by October 2016.